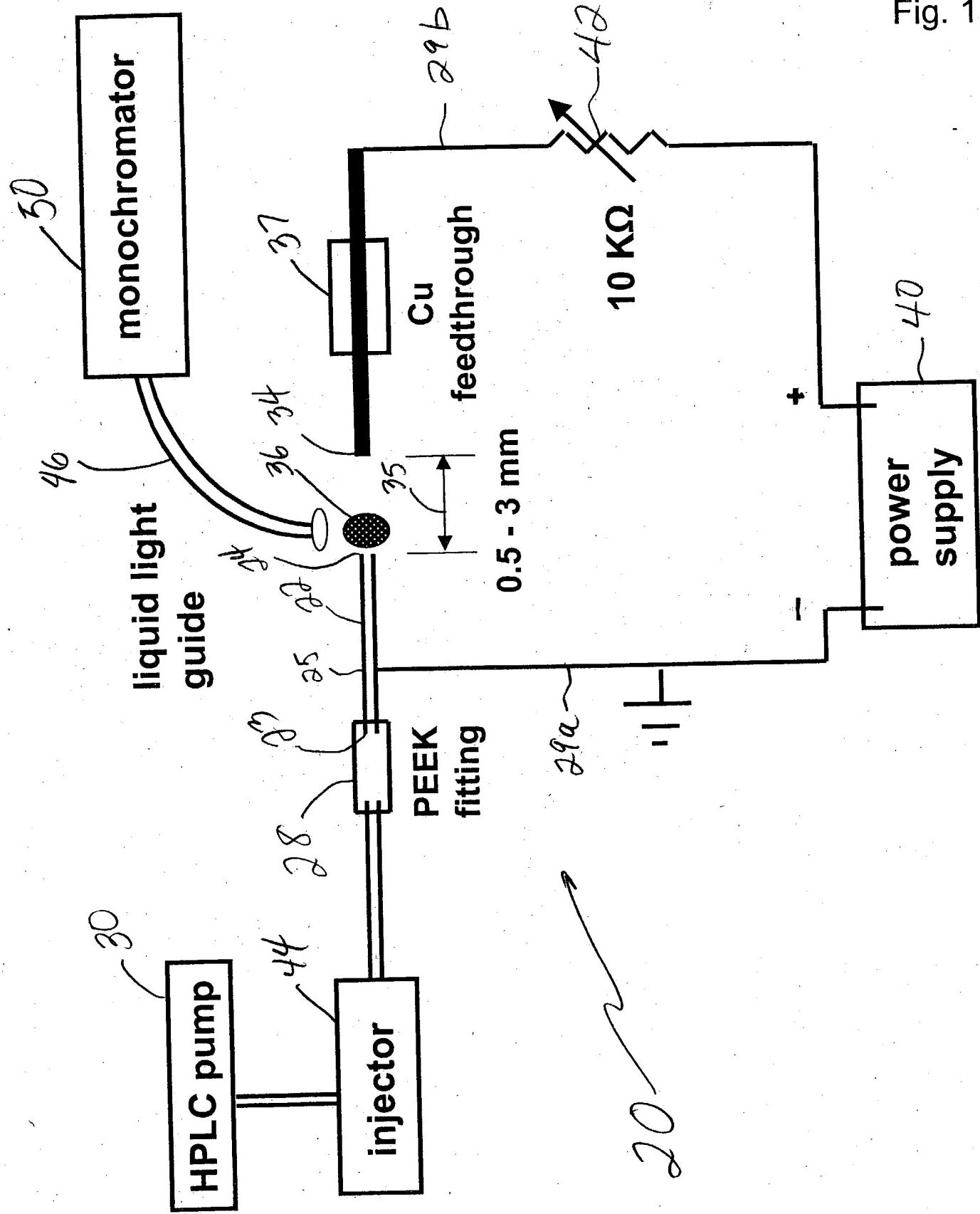


Fig. 1a



Basic LS-APGD Source Operation

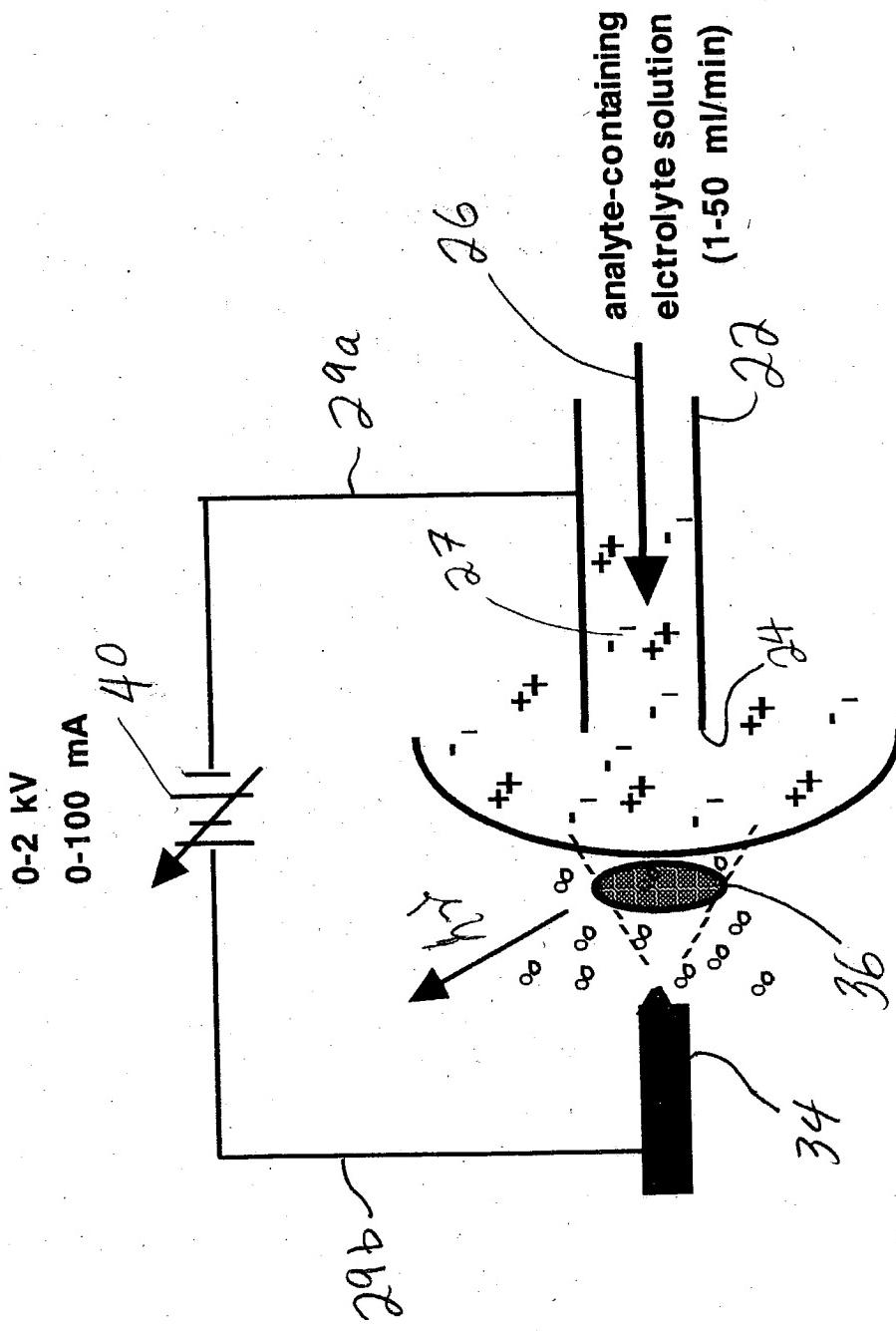


Fig. 1b

Proposed Implementation of LS-APGD with Microfluidic Devices

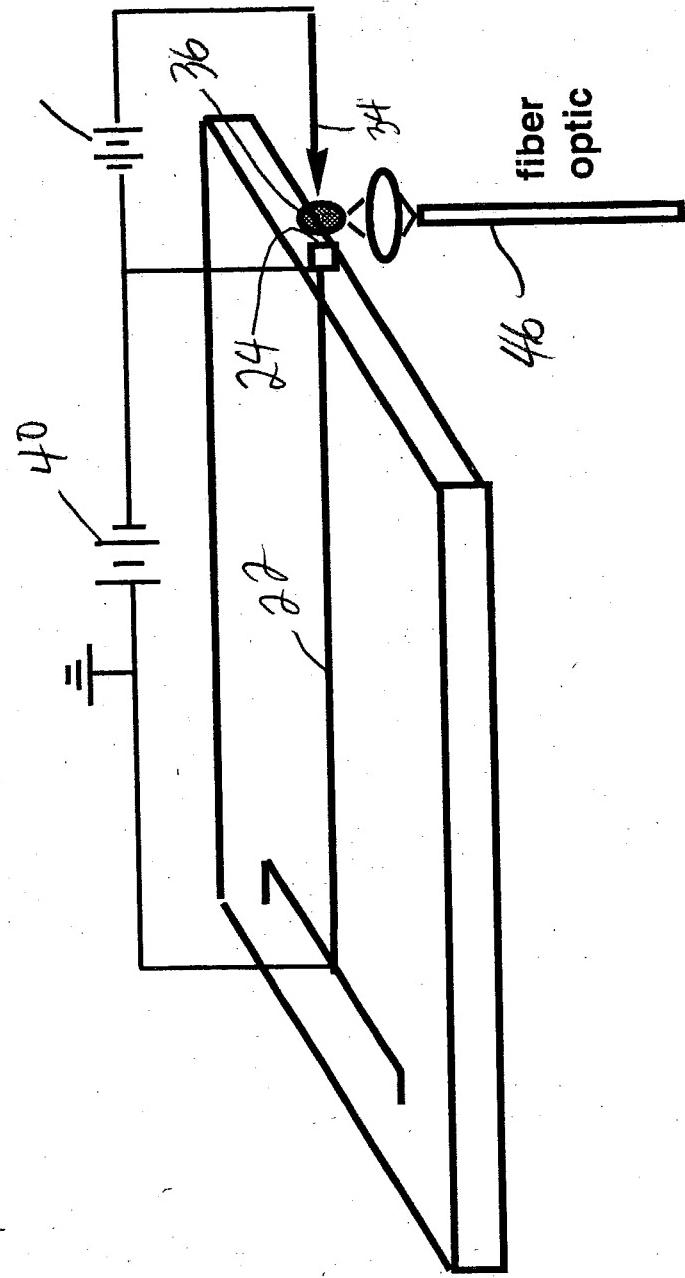


Fig. 1c

Fig. 2a

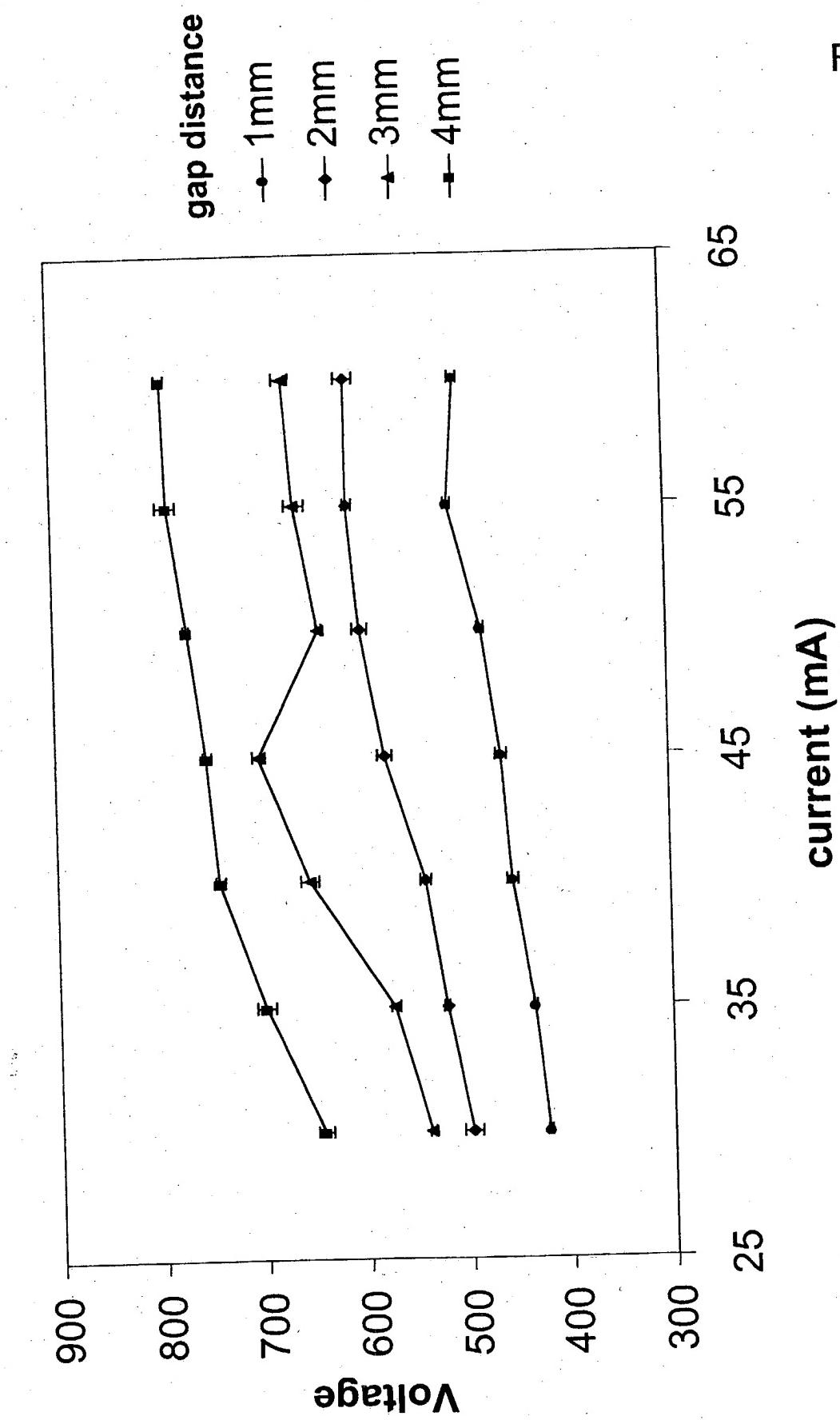


Fig. 2b

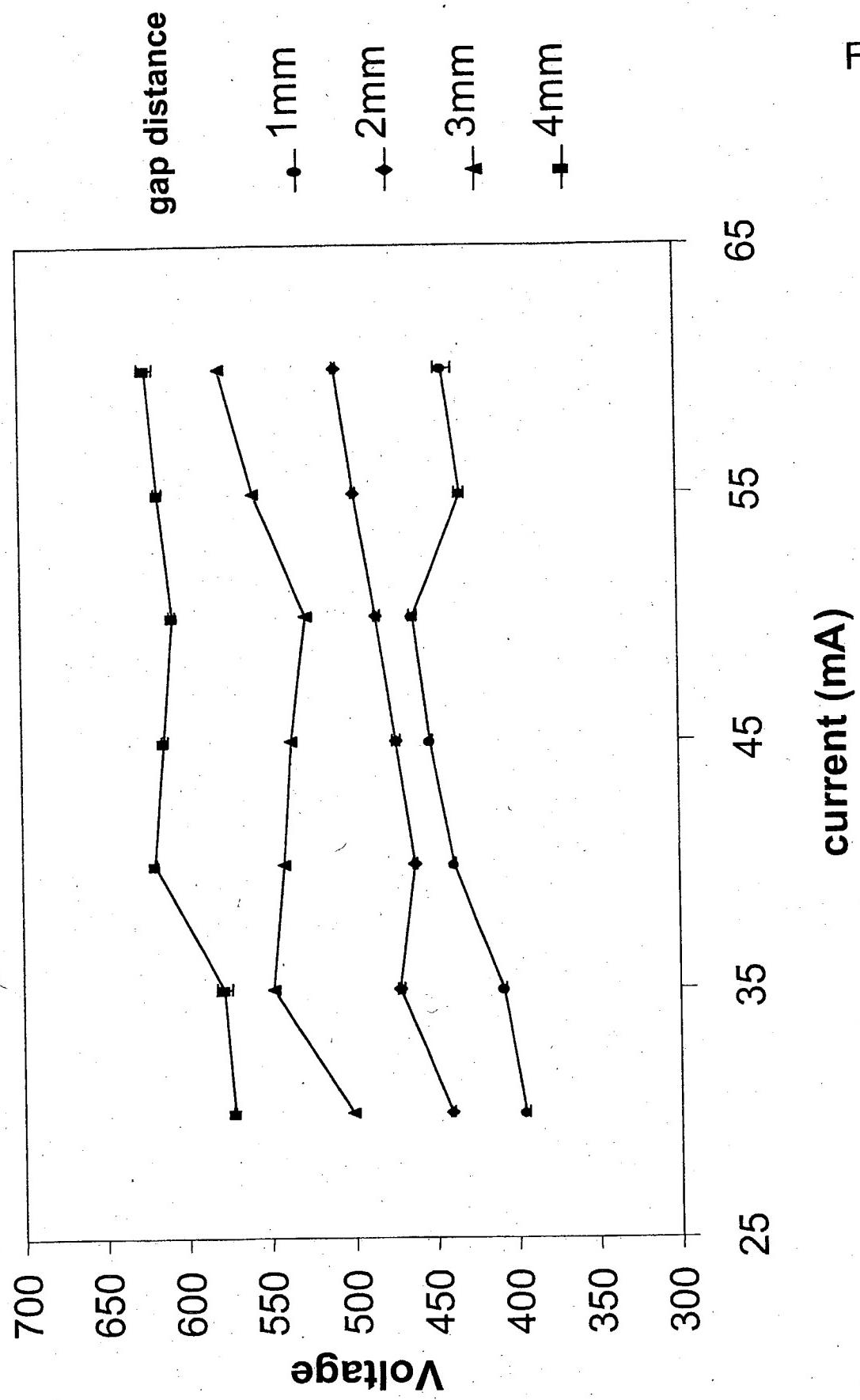


Fig. 3a

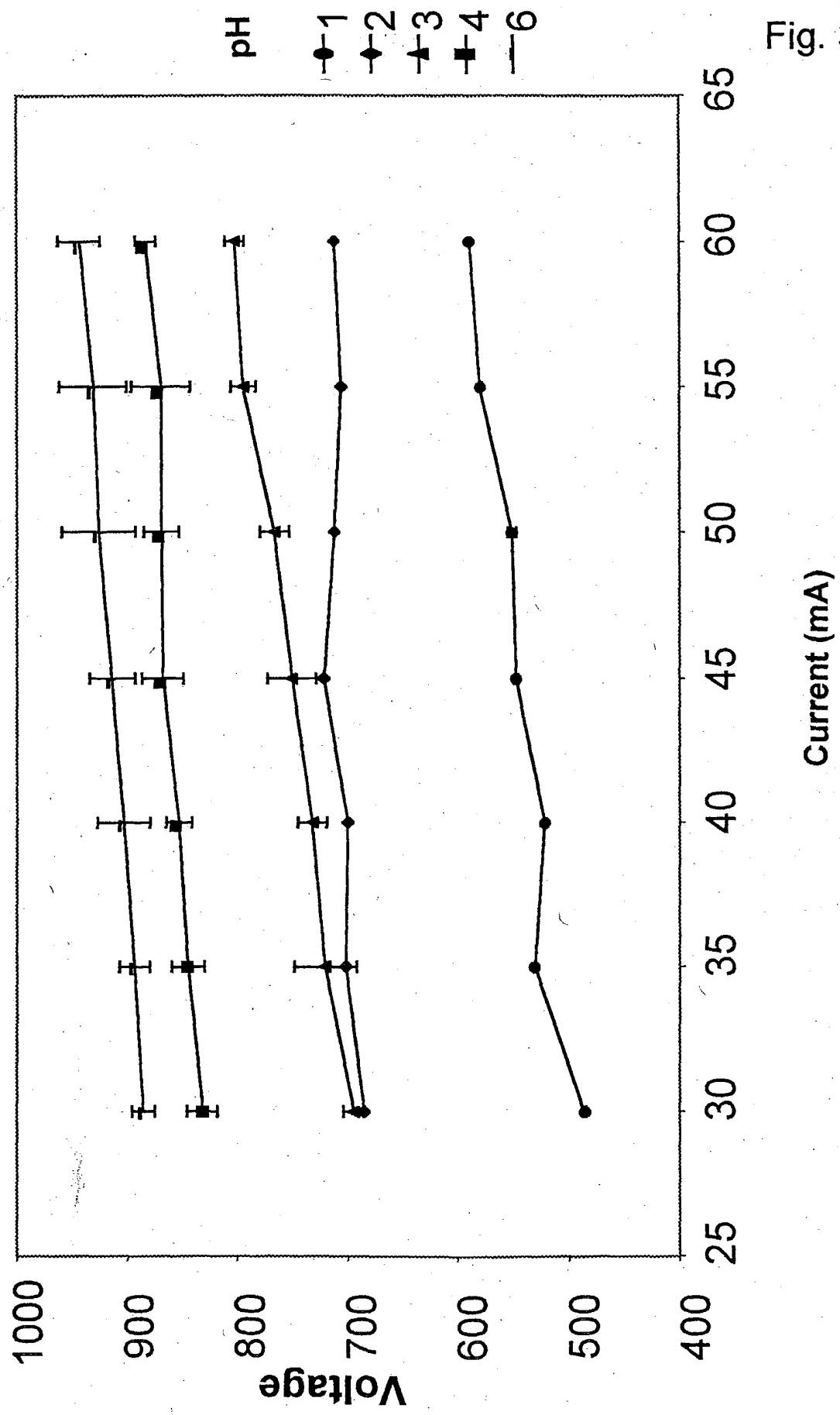


Fig. 3b

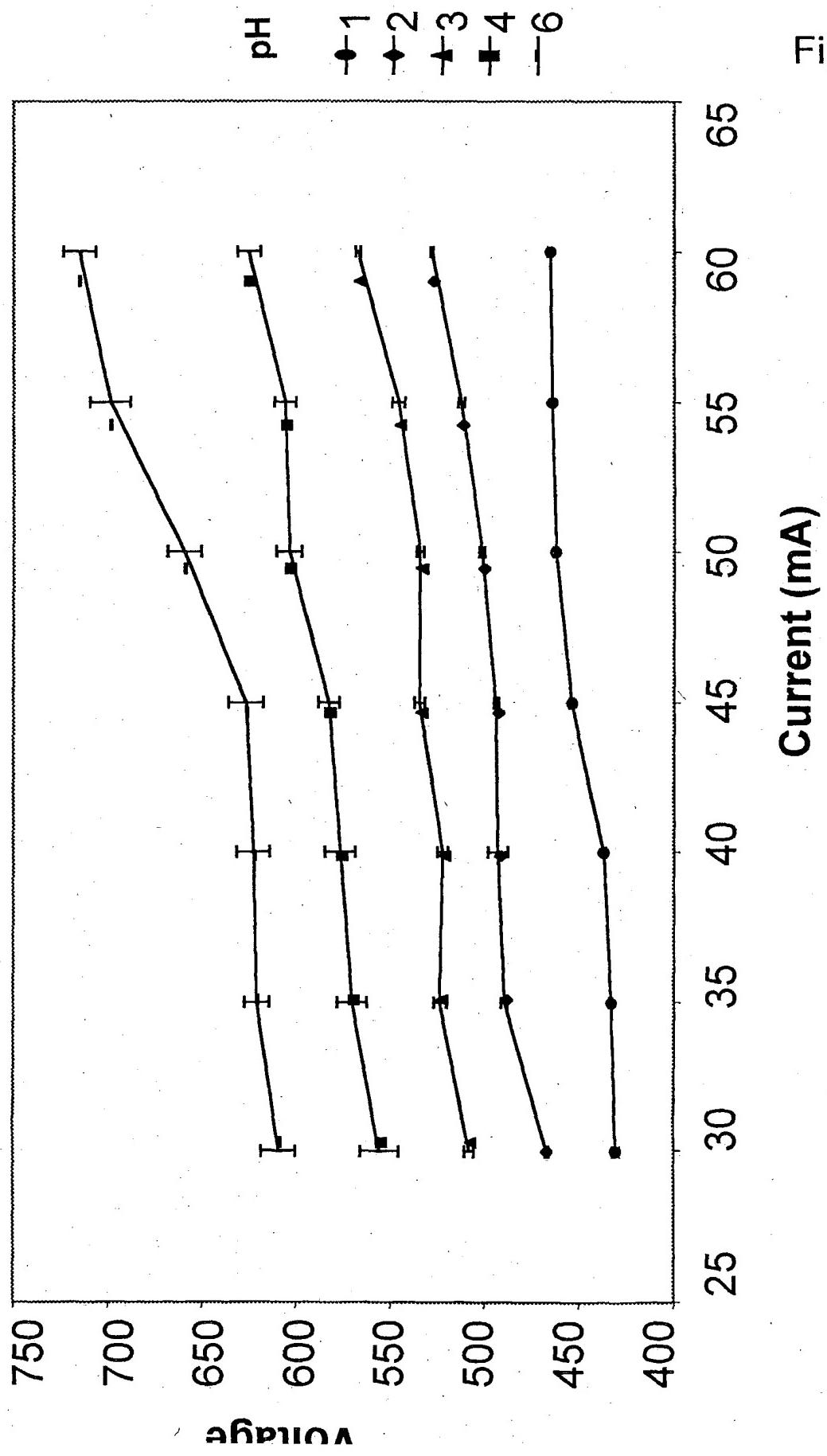


Fig. 4a

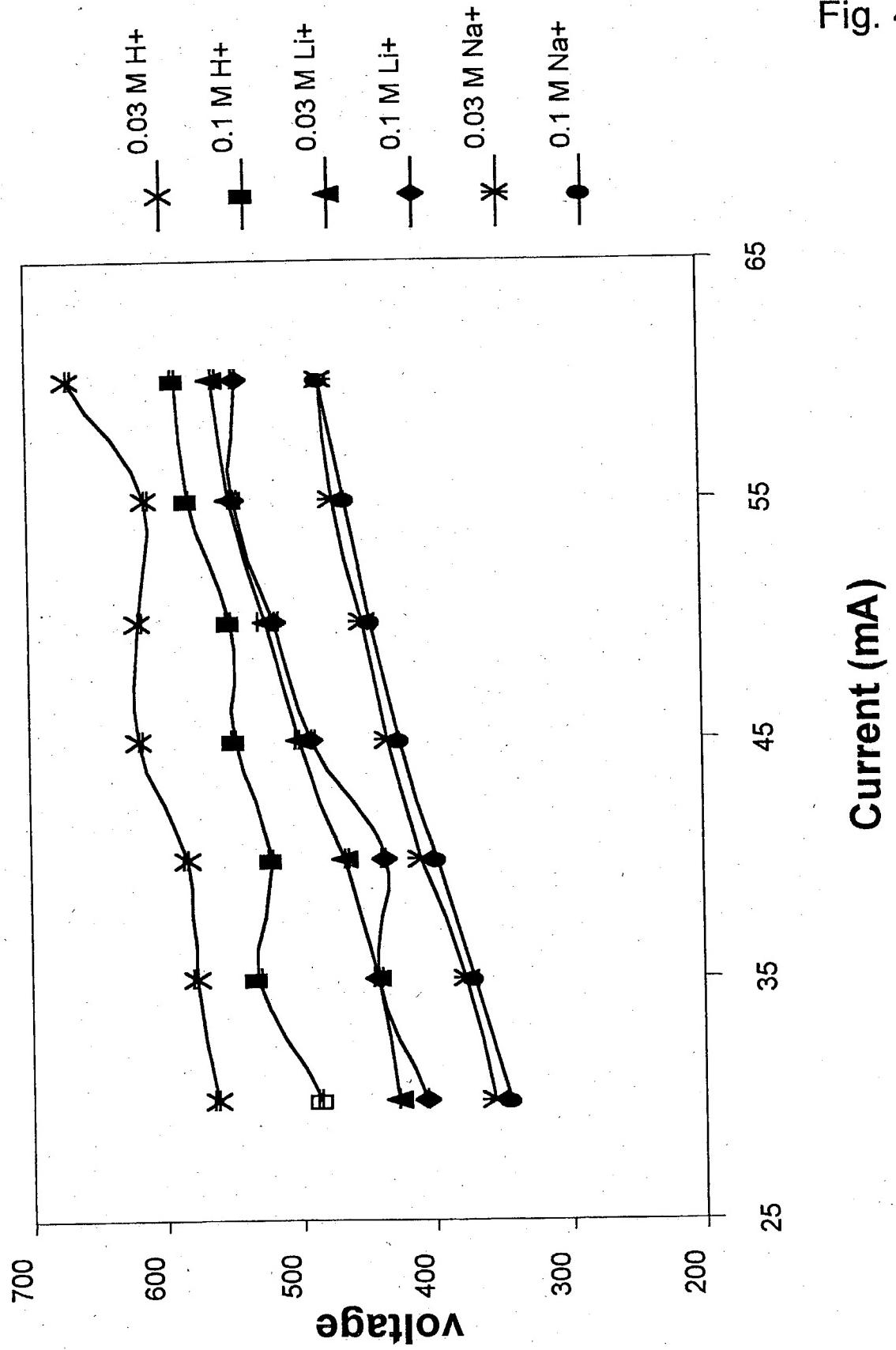


Fig. 4b

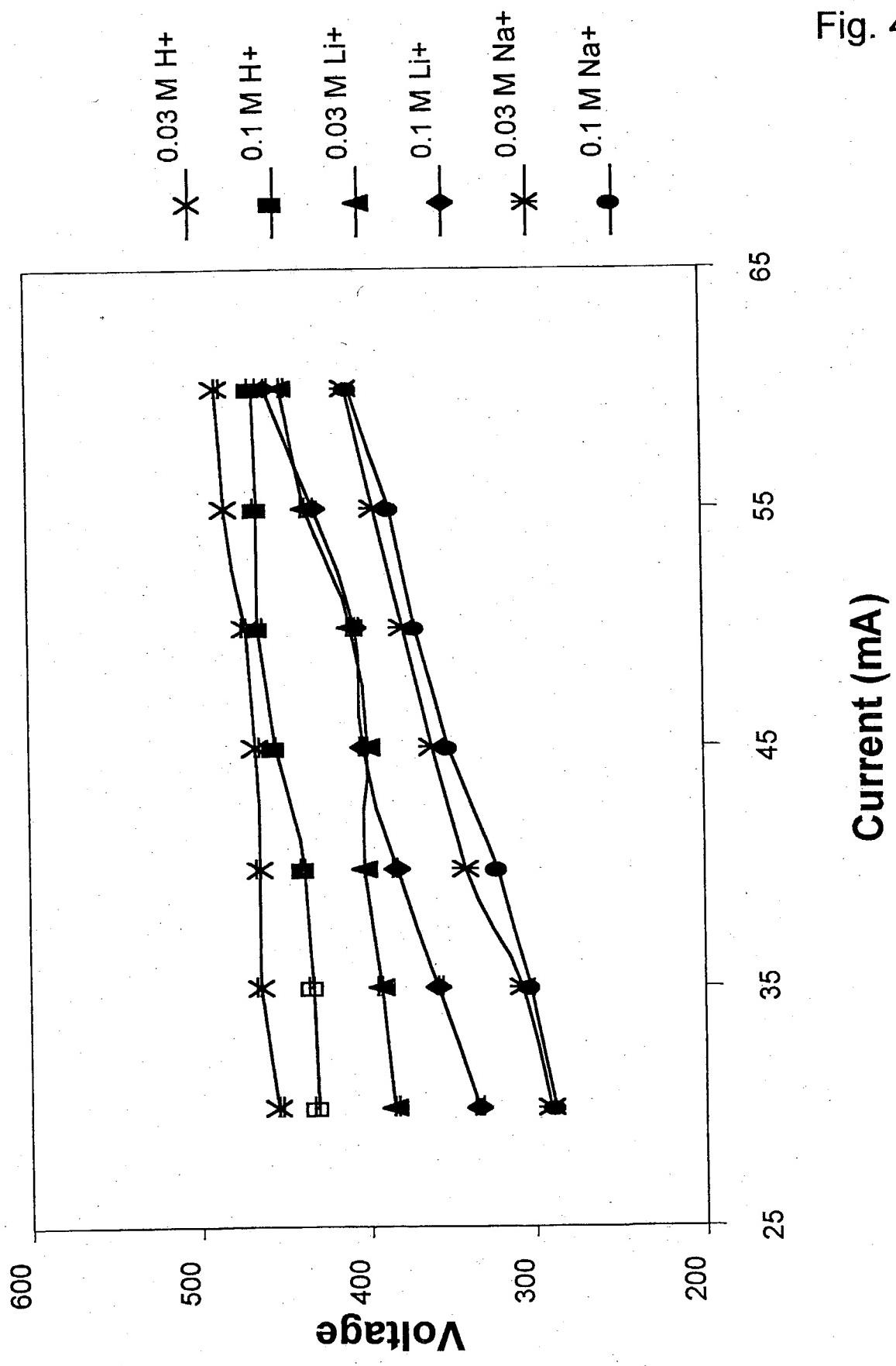


Fig. 5

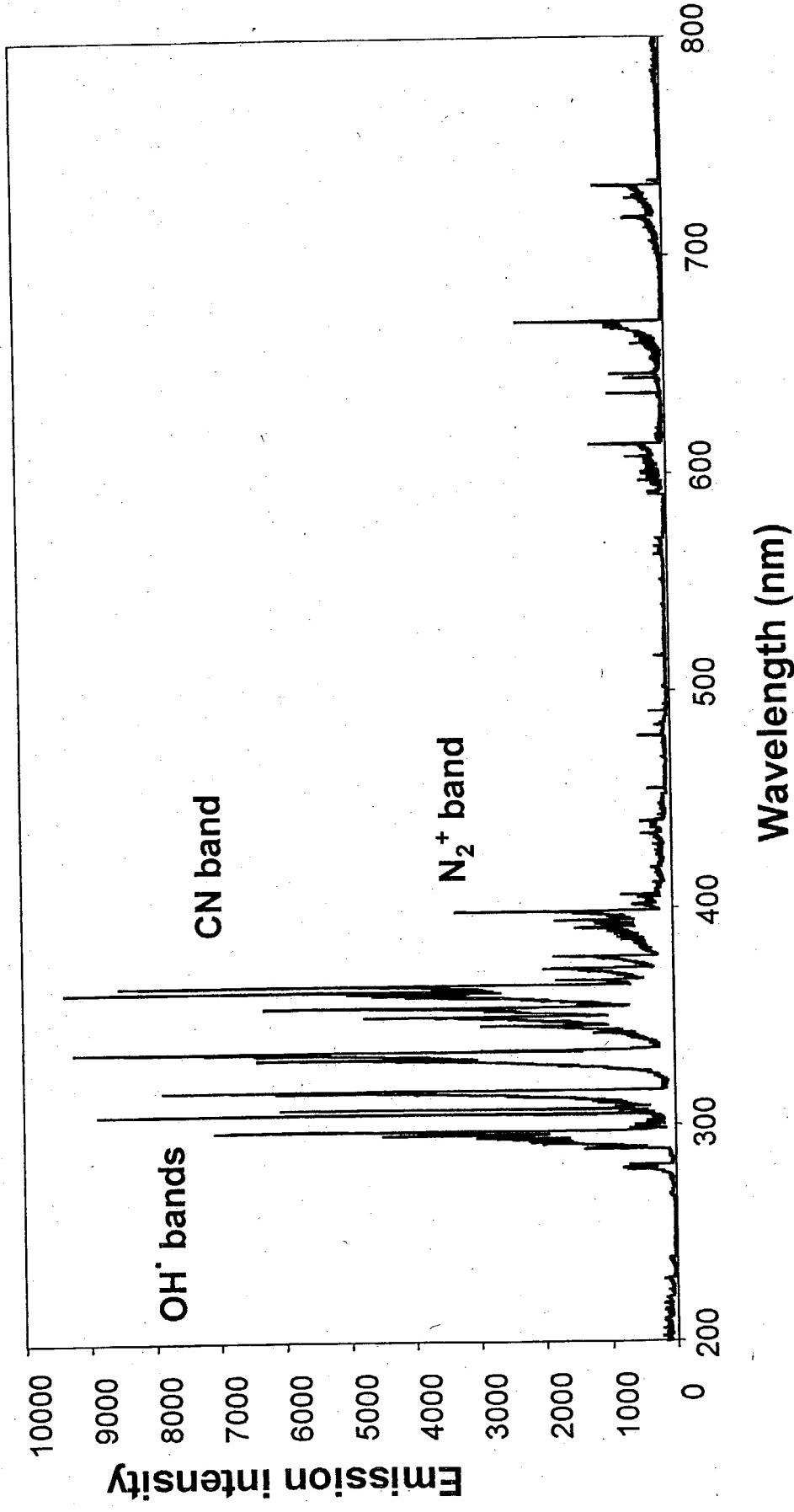


Fig. 6

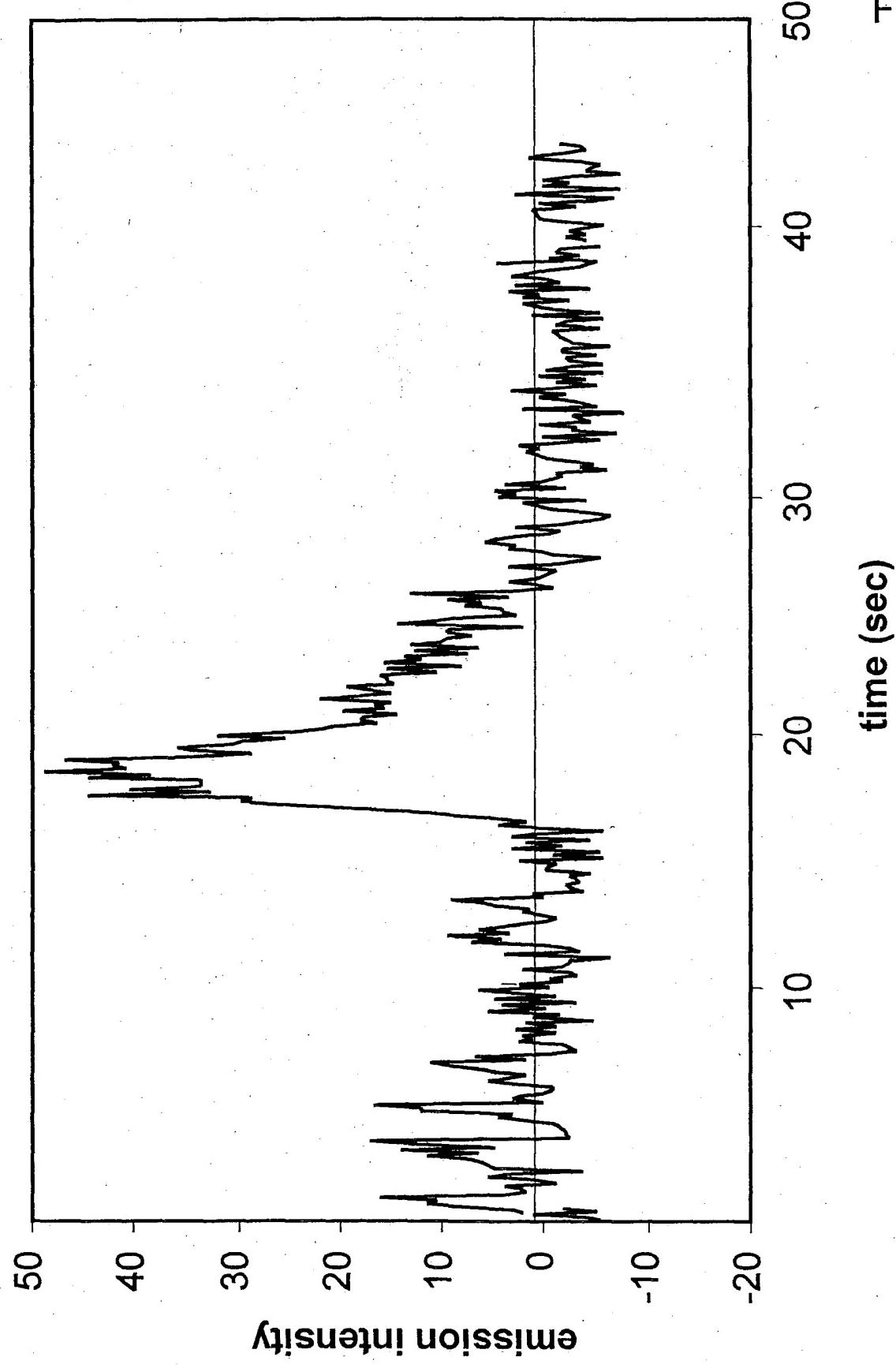


Fig. 7

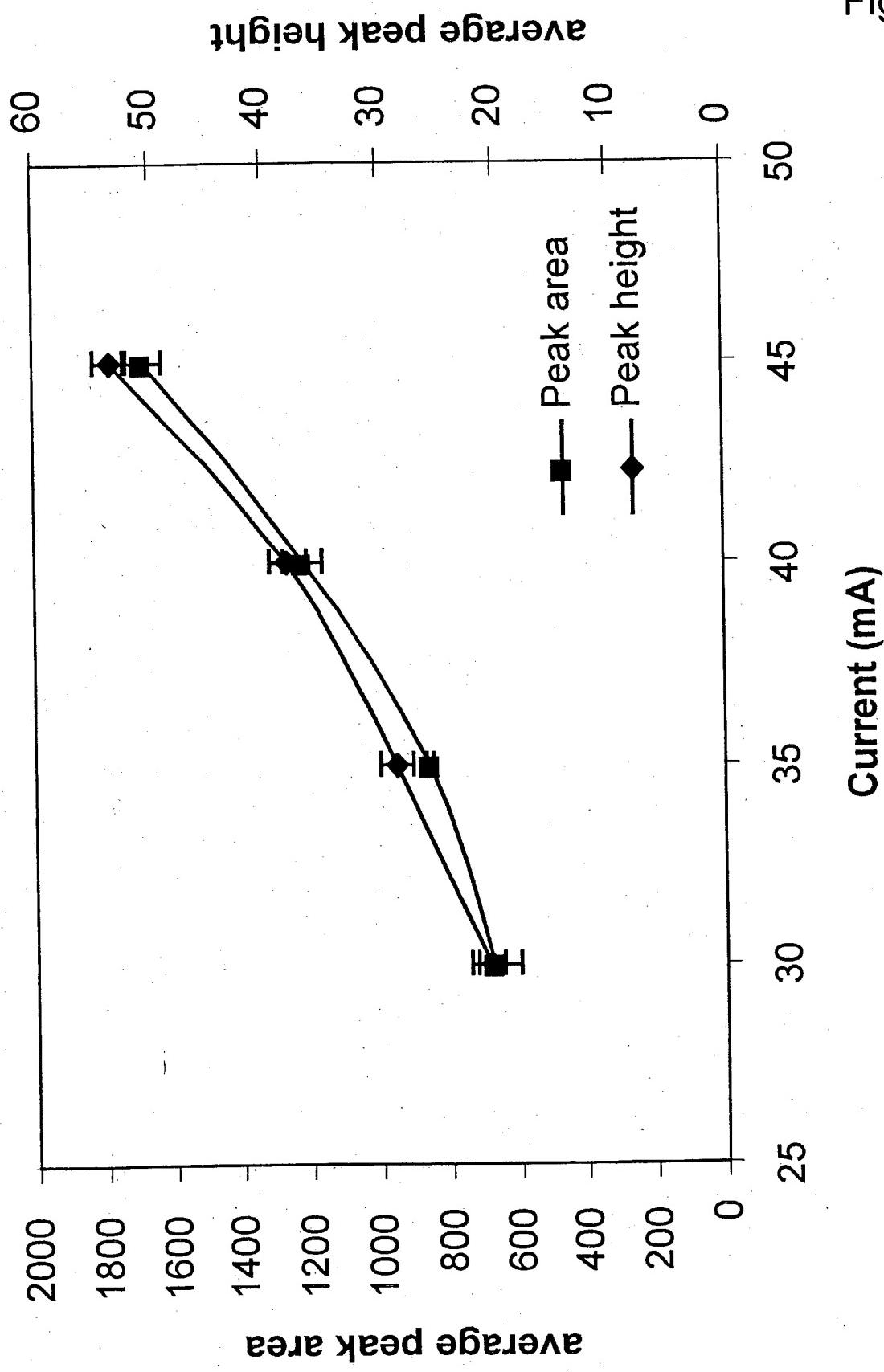


Fig. 8

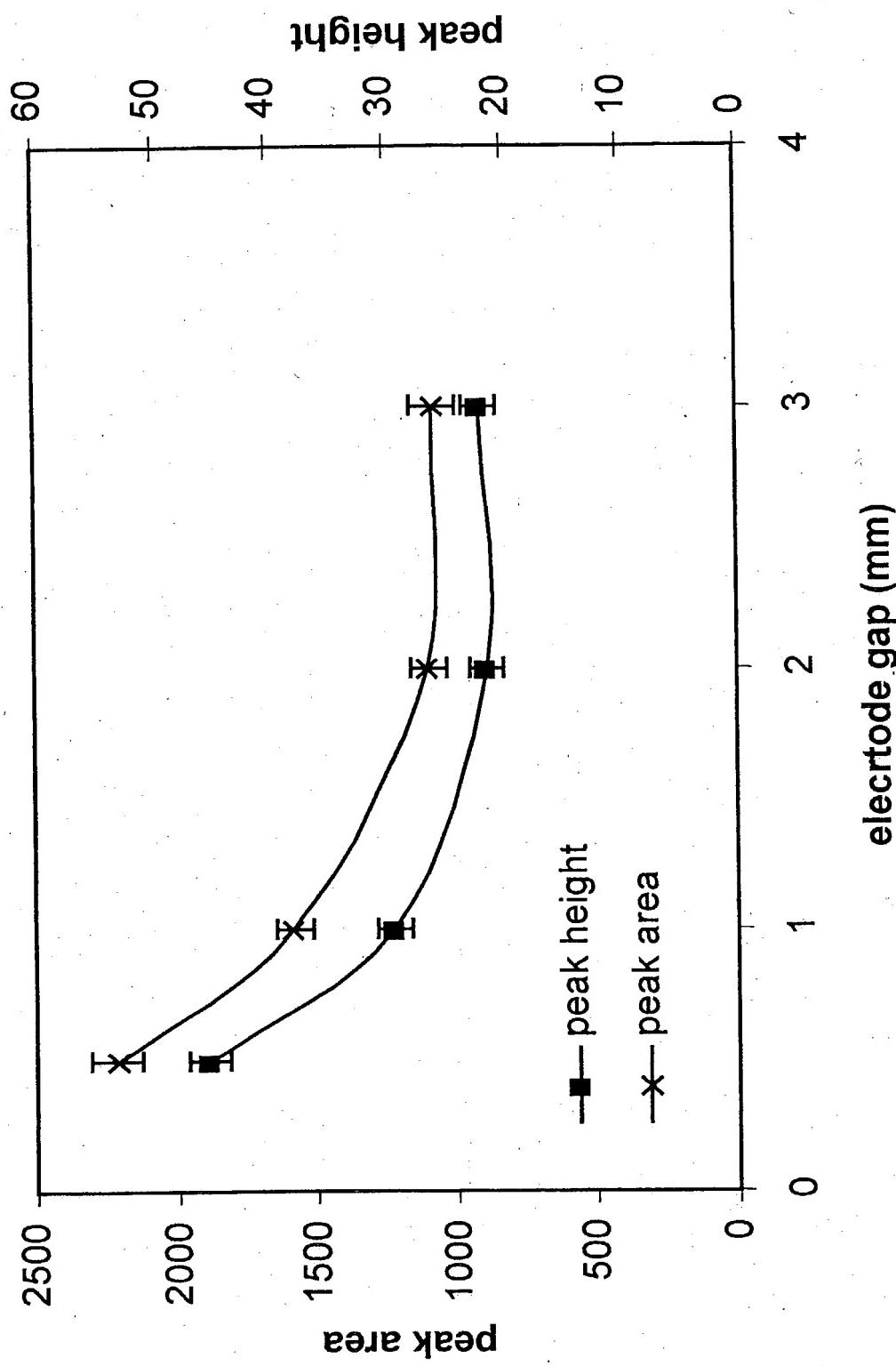
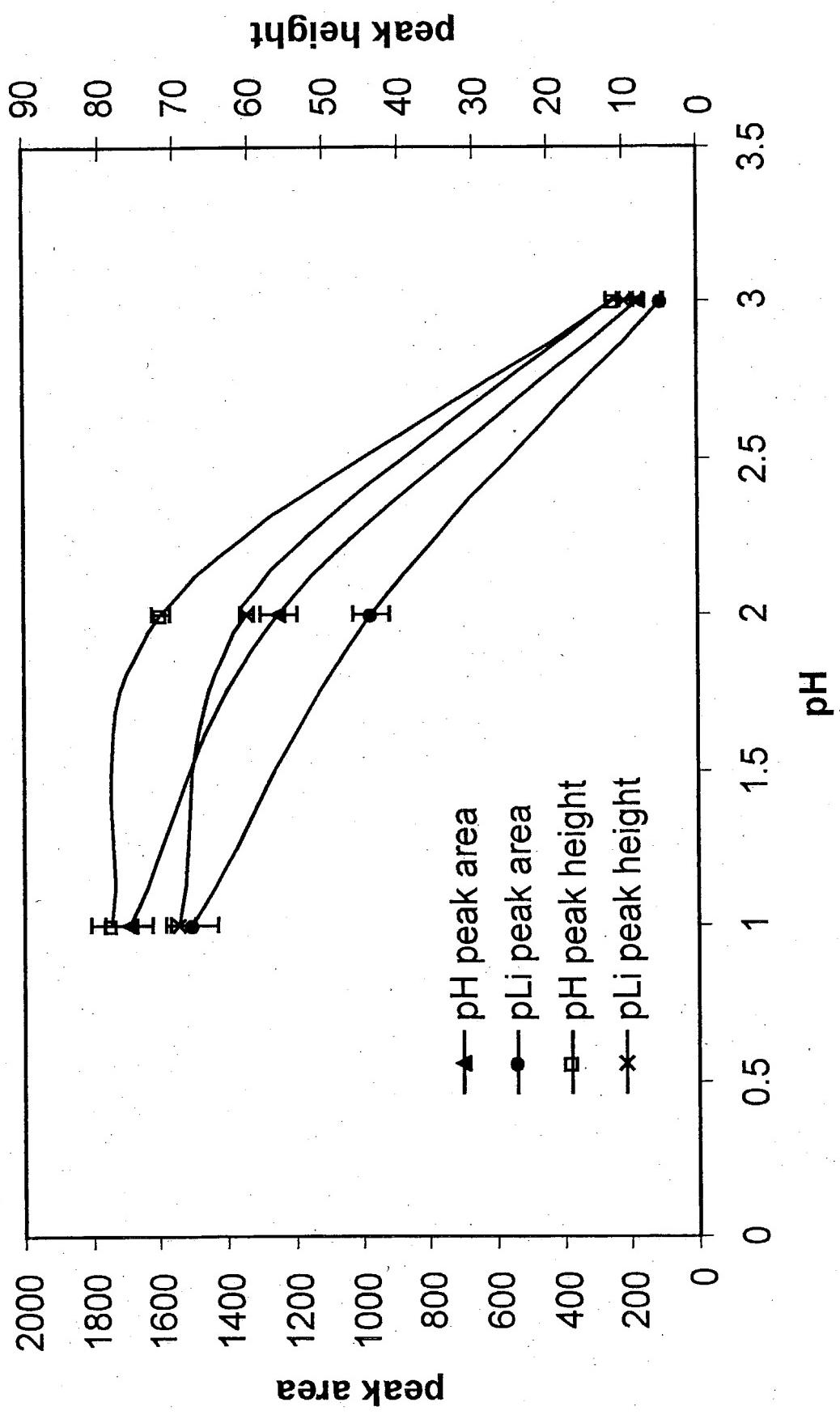


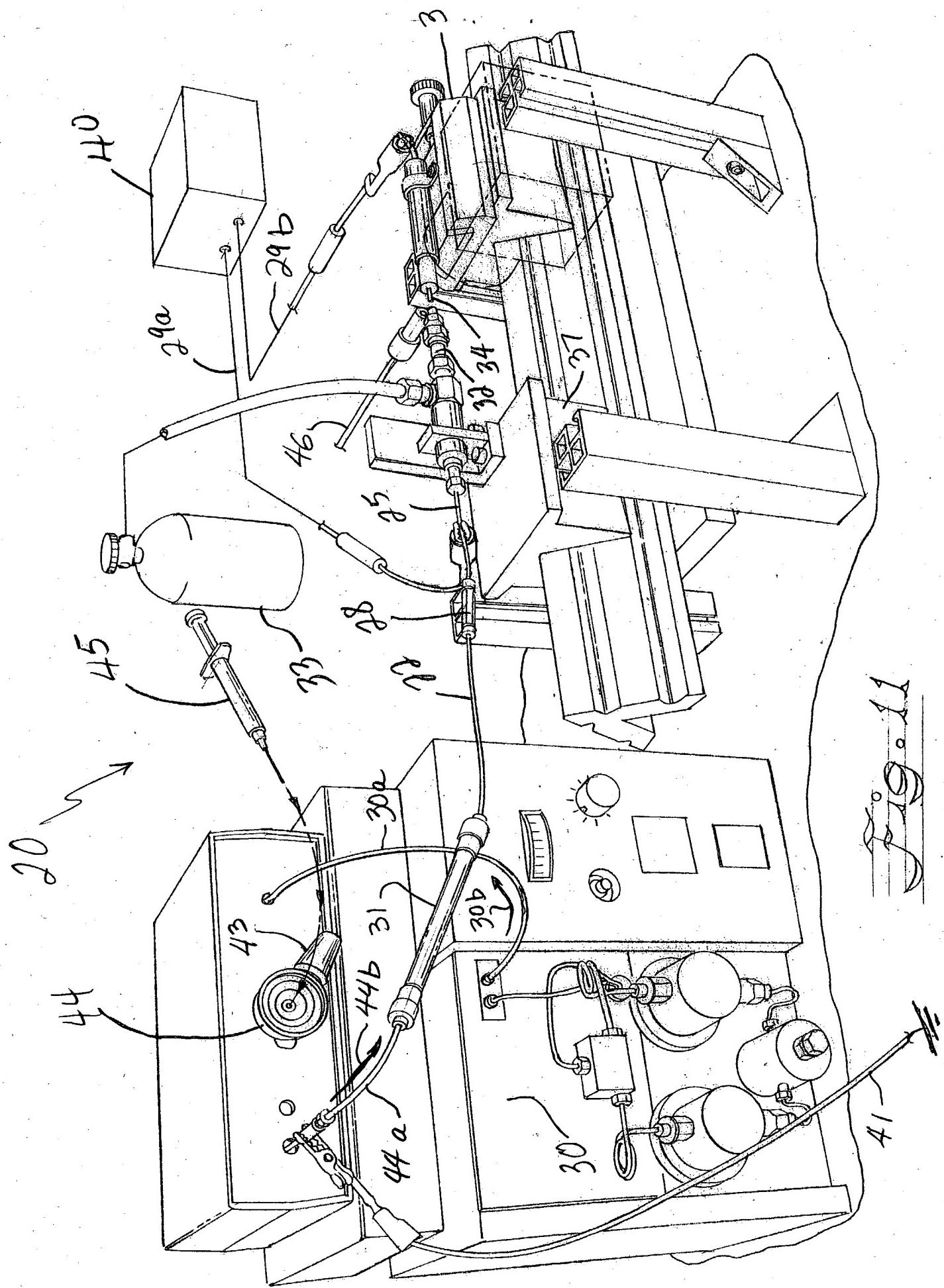
Fig. 9

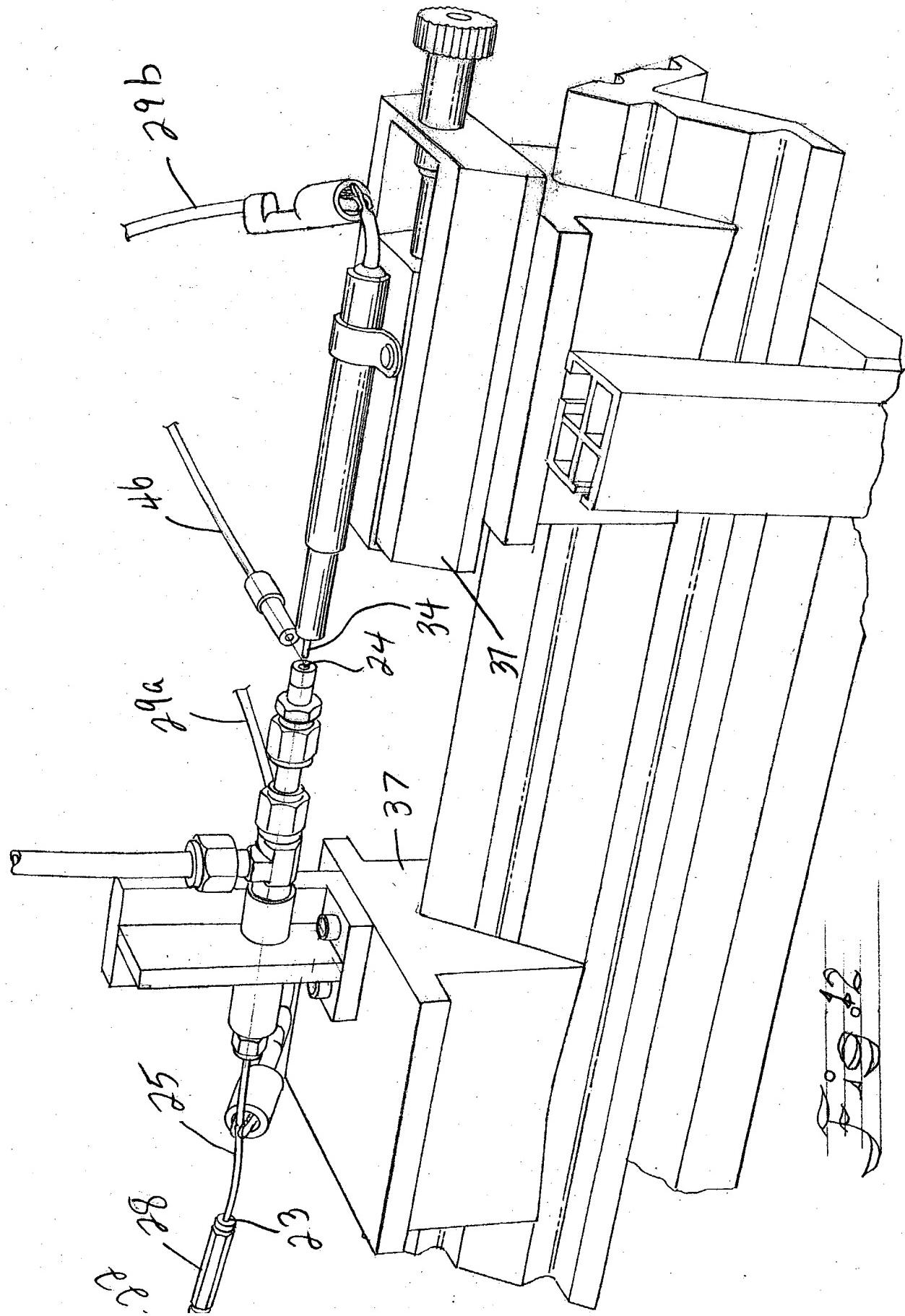


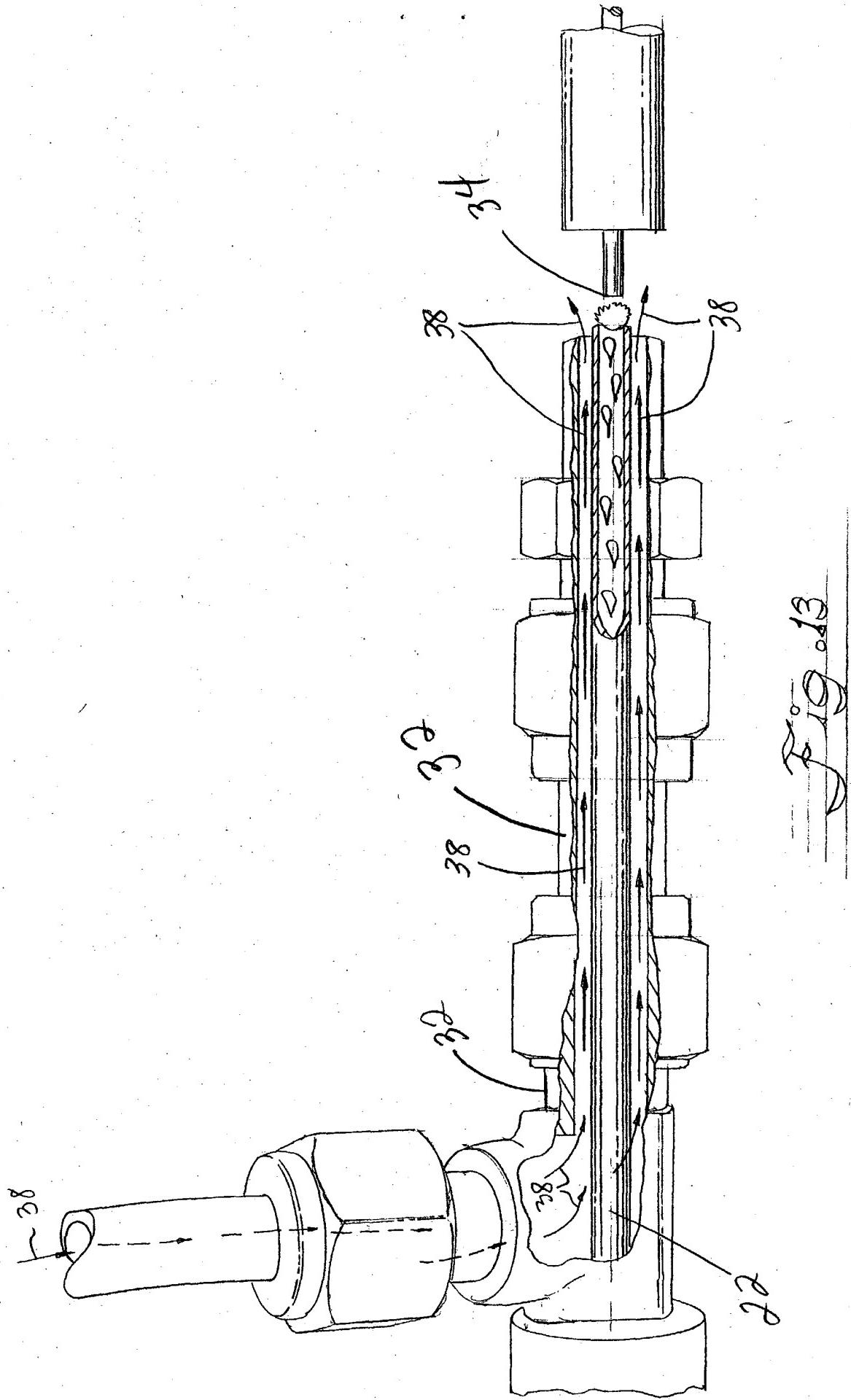
Analytical response functions and limits of detection for the LS-APGD device. Solution flow rate = 1 mL/min, electrolyte pH = 1, inter-electrode gap = 1 mm, injection volume = 5 μ L.

Element	wavelength (nm)	peak height eqn.	peak area eqn.	LOD ppm (ng)
Na	589.0	$y=0.421x + 42.8$ 0.9859	$y=15.81x + 978.6$ 0.9784	12 (60)
Fe	248.3	$y=1.06x - 102.1$ 0.9365	$y=45.80x - 6649$ 0.909	12 (60)
Pb	405.8	$y=1.18x - 10.45$ 0.977	$y=16.16x - 419.7$ 0.9298	14 (70)

FIG. 10







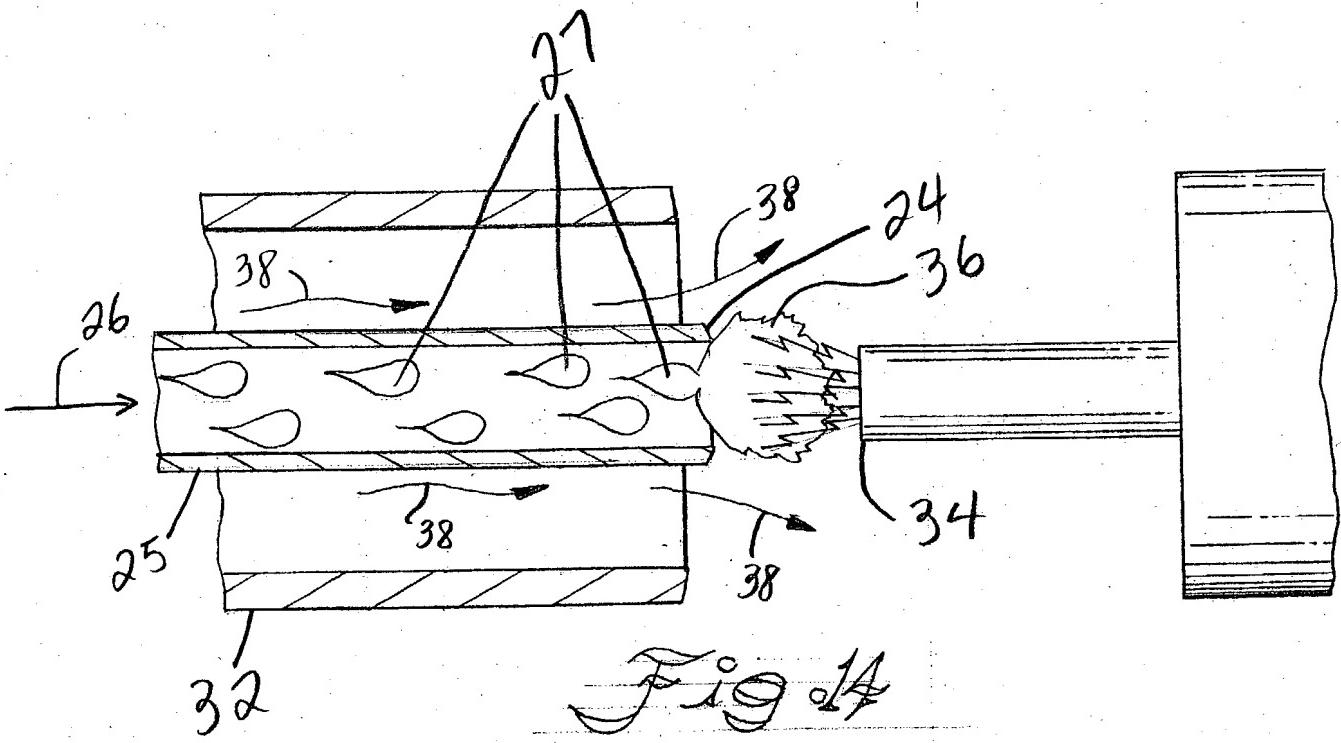


Fig. 14

Selenoamino Acid Separation

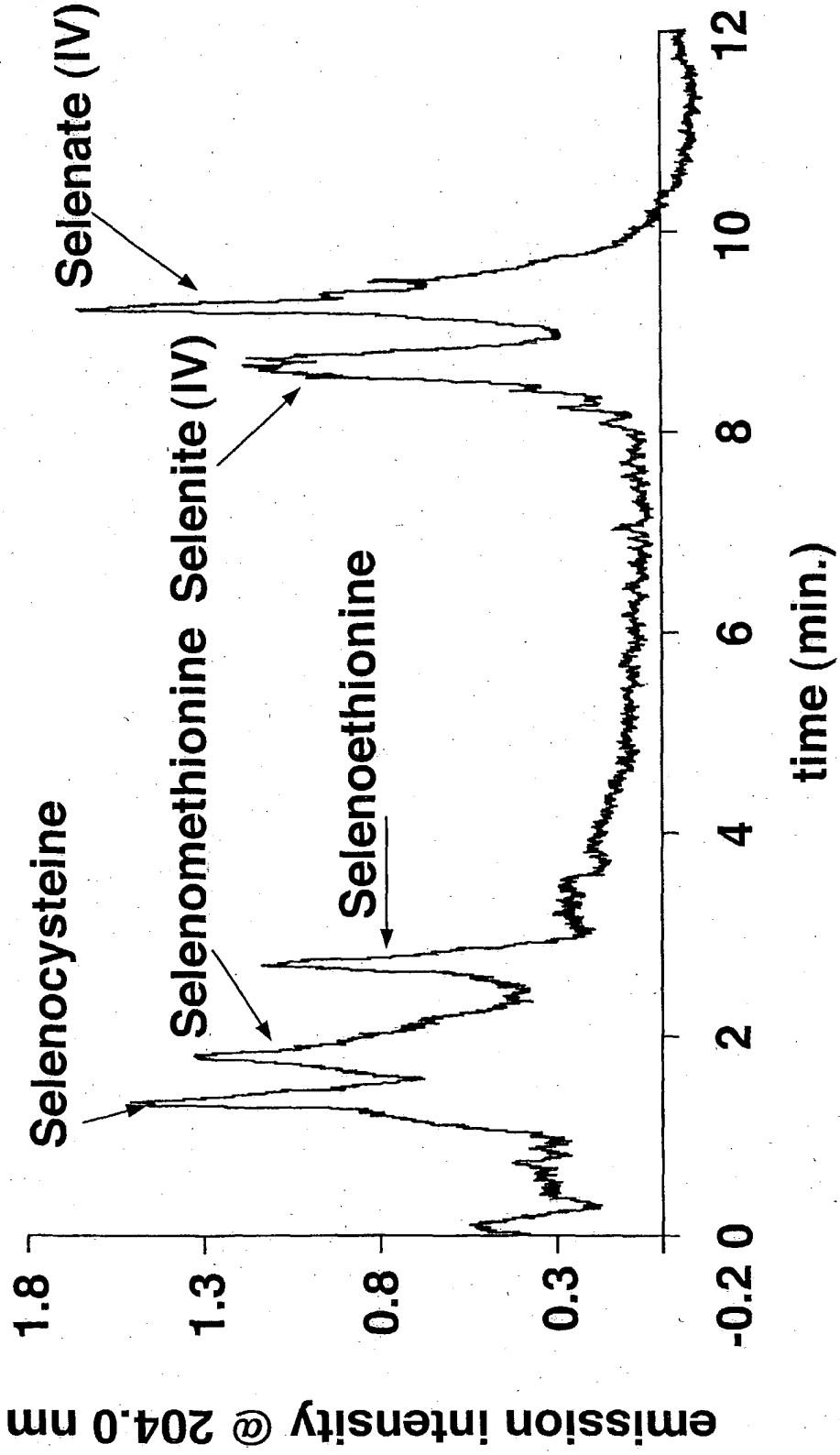


Fig. 15